

OIB - P-3 Orion 11/14/17 Science Report

Aircraft: [P-3 Orion - WFF](#) ([See full schedule](#))

Date: Tuesday, November 14, 2017

Mission: OIB

Mission Location: Antarctica

Mission Summary:

OIB successfully flew the Seelye Loop South sea ice mission. This mission represents a continuation of the IceBridge time series, repeating the southern portion of the same mission flown almost every year of Operation IceBridge. It targets gradients in sea ice freeboard and thickness along the "gate" connecting the tip of the Antarctic Peninsula with Cape Norvegia – although we cannot reach all the way to Cape Norvegia in the P-3 due to range constraints.

This was an extraordinarily difficult weather call today as there was stark disagreement in model forecasts for the region, some models showed the line clearing out later in the day while others showed we would not be able to get much of any data through the clouds. Imagery from early in the morning also showed poor conditions throughout which made it difficult to calibrate which model might be best representing the actual situation. Despite the uncertainty the mission was launched as an acceptable risk. This was the right call to make, though there were clouds along portions of the line which we were not able to get under, we still obtained large stretches of good coverage to effectively measure the gradient in sea ice thickness across the line. All instruments performed well today, ATM and DMS estimate a loss of about half the data due to clouds, while snow radar obtained data throughout the line except for some of the altitude transition points.

Data volumes

ATM: T6: 49 Gb T7: 76 Gb

FLIR: 6.0 Gb

Cambot: 12 Gb

KT19: 12 Mb

DMS: 26.4 Gb

MCoRDS: did not operate

Gravity/Magnetometer: 3 Gb

Accumulation radar: 156 Gb

Snow/Ku radar: 670 Gb

data on: 1559

data off: 1848

Submitted by: Nathan T. Kurtz on 11/14/17

File:



[Seelye_Loop_South_map.pdf](#)

Related Flight Report:

P-3 Orion 11/14/17

Flight Number: OIB-Ushuaia Science Flight #6

Payload Configuration: OIB - Ushuaia 2018

Nav Data Collected: No

Total Flight Time: 9.8 hours

Submitted by: Janet Letchworth on 11/14/17

Flight Segments:

From:	SAWH	To:	SAWH
Start:	11/14/17 13:45 Z	Finish:	11/14/17 23:31 Z
Flight Time:	9.8 hours		
Log Number:	18P006	PI:	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Seelye Loop South sea ice flight line.		

Flight Hour Summary:

18P006

Flight Hours Approved in SOFRS						151
Total Used						156
Total Remaining						-5
18P006 Flight Reports						
Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/17/17	OIB - Airworthiness Test Flight	Check	1.1	1.1	149.9	
10/18/17	OIB - Project Test Flight	Check	3.5	4.6	146.4	
10/19/17	OIB PTF - Radar	Check	4.5	9.1	141.9	
10/23/17	OIB - Transit leg #1	Transit	7.1	16.2	134.8	
10/24/17	OIB - Transit leg #2	Transit	6.5	22.7	128.3	
10/25/17	OIB - Transit leg #3	Transit	7	29.7	121.3	
10/29/17 - 10/30/17	OIB-Ushuaia Science Flight #1	Science	9.7	39.4	111.6	
10/31/17	OIB-Ushuaia Science Flight #2	Science	8.9	48.3	102.7	
11/03/17	OIB-Ushuaia Science Flight #3	Science	9	57.3	93.7	
11/04/17	OIB-Ushuaia Science Flight #4	Science	9.3	66.6	84.4	
11/12/17	OIB-Ushuaia Science Flight #5	Science	9.5	76.1	74.9	
11/14/17	OIB-Ushuaia Science Flight #6	Science	9.8	85.9	65.1	
11/16/17	OIB-Ushuaia Science Flight #7	Science	9.1	95	56	
11/21/17	OIB-Ushuaia Science Flight #8	Science	9.4	104.4	46.6	
11/22/17 - 11/23/17	OIB-Ushuaia Science Flight #9	Science	9.9	114.3	36.7	
11/24/17	OIB-Ushuaia Science Flight #10	Science	9.6	123.9	27.1	
11/25/17 - 11/26/17	OIB-Ushuaia Science Flight #11	Science	9.5	133.4	17.6	
11/27/17	OIB-Ushuaia SAWH-SCDA Transit Flight	Transit	7	140.4	10.6	
11/28/17	OIB-Ushuaia SCDA-MROC Transit Flight	Transit	7	147.4	3.6	
11/29/17	OIB-Ushuaia MROC-KNGU Transit Flight	Transit	6.3	153.7	-2.7	
11/29/17	OIB-Ushuaia KNGU-KWAL Transit Flight	Transit	0.8	154.5	-3.5	
12/04/17	OIB-Post Mission Calibration Flight	Science	1.5	156	-5	

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

NASA Official: Bruce A. Tagg

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